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Long-Term Effectiveness and Safety of Maxillomandibular Advancement for Treatment of Obstructive Sleep Apnea

Kristy K. Sawyer, MD; Peter A. Cistulli, MD; Chen Sleep, MD; Peter Wijan, MD; Gerard M. Hanegan, MD; Jack Cistulli, MD; Jeffrey C. Hsieh, MD; Jeffrey T. Maurer, MD; Ronald D. Chervin, MD; Stephen Lim, MD; Stephen Ramsden, MD; Stephen Ramsden, MD; Stephen Ramsden

since we did not observe any significant deterioration in the efficacy of MMA between the short-term and long-term post-MMA time intervals. This study examined several important outcome measures—AHI, subjective sleepiness, QOL, BP—but there are other important health-related and functional outcomes that need to be examined including neurocognitive function and more measures of cardiovascular health. Ideally, larger prospective multicenter studies will be conducted in the future to comprehensively assess the effectiveness and safety of MMA to better define the generalizability of the results of this study and the overall impact of MMA on the health of patients with moderate-to-severe OSA, especially in patients who are unable to tolerate CPAP.

CONCLUSIONS

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Our results note that MMA is a clinically effective long-term treatment for patients with moderate-to-severe OSA as it predictably produces substantial and sustained reductions in AHI, BP, and subjective sleepiness, with concomitant significant improvements in QOL. Importantly, MMA has a good risk-benefit ratio, as these successful outcomes were achieved in the context of minimal short-term and long-term treatment-related adverse outcomes. In comparison to published results of other treatment options for patients with severe OSA, the magnitude of improvement in clinical outcomes after MMA is superior to other surgical procedures, oral appliance therapy and more recently, upper airway stimulation. Furthermore, MMA appears to produce results that are similar to the outcomes for patients who are fully adherent to CPAP therapy. Since a relatively large number of patients with severe OSA will not fully adhere to CPAP therapy—presumably leaving them at continued high risk for cardiovascular events and a diminished quality of life—it is extremely important to have alternative therapies available that can effectively treat severe OSA over a patient's lifetime. The results of this study provide compelling evidence to suggest that MMA meets these needs and should be the alternative treatment of choice for patients with severe OSA who cannot fully adhere to CPAP therapy.

DISCLOSURE STATEMENT

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ABBREVIATIONS

Go to:

AHI	apnea-hypopnea index
BMI	body mass index
BP	blood pressure
CCW	counter-clockwise
CI	confidence interval
CIH	chronic intermittent hypoxia
CPAP	continuous positive airway pressure
CW	clockwise
DBP	diastolic blood pressure
ESS	Epworth Sleepiness Scale
FOSQ	Functional Outcomes of Sleep Questionnaire
GA	genioglossal advancement
MAD	mandibular advancement device
MMA	maxillomandibular advancement
OSA	obstructive sleep apnea
QOL	quality of life
RERAs	respiratory even related arousals
SAQLI	Sleep Apnea Quality of Life Index
UPPP	uvulopalatopharyngoplasty
VAS	visual analogue scale

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